

What is claimed is:

1. A phase-locked loop structure providing local oscillator signals, said phase-locked loop structure comprising:
 - a first phase-locked loop including a first voltage controlled oscillator;
 - a second phase-locked loop including a second voltage controlled oscillator;

10 a first local oscillator output for providing a first local oscillator signal, wherein a signal output by said first voltage controlled oscillator is forwarded to said first local oscillator output;

15 a second local oscillator output for providing a second local oscillator signal; and

20 a selection component for forwarding a signal output by said first voltage controlled oscillator or a signal output by said second voltage controlled oscillator to said second local oscillator output.
2. A phase-locked loop structure according to claim 1, wherein said first voltage controlled oscillator is designed to generate signals in a first frequency band, wherein said second voltage controlled oscillator is designed to generate signals in a second frequency band, and wherein said phase-locked loop structure further comprises a control unit applying a control signal to said selection component which causes said selection component to forward a signal output by said first voltage controlled oscillator to said second local oscillator output whenever a second local oscillator signal having a frequency selected from said first frequency band is required and applying a control signal to said

selection component which causes said selection component to forward a signal output by said second voltage controlled oscillator whenever a second local oscillator output having a frequency selected from said second frequency band is required.

5 3. A phase-locked loop structure according to claim 1,
10 wherein said first voltage controlled oscillator is
15 designed to generate signals having a first quality
20 and said second voltage controlled oscillator is
25 designed to generate signals having a second quality,
 said first quality being higher than said second
 quality, and wherein said phase-locked loop structure
 further comprises a control unit applying a control
 signal to said selection component which causes said
 said first voltage controlled oscillator to forward a signal output by
 second local oscillator signal having said first quality is
 required and applying a control signal to said
 local oscillator signal having said first quality is
 selection component which causes said selection
 component to forward a signal output by said second
 voltage controlled oscillator to said second local
 oscillator output whenever a second local oscillator
 signal having said second quality is required.

25 4. A phase-locked loop structure according to claim 1,
30 further comprising:
 at least one control unit, which at least one
 control unit applies control signals to said
 selection component causing said selection component
 to alternate between forwarding a signal output by
 said first voltage controlled oscillator and a signal

5 output by said second voltage controlled oscillator
to said second local oscillator output, and which at
least one control unit sets a required frequency at
the signal output by a respective voltage controlled
oscillator before a control signal is provided to
said selection component to switch to forwarding a
signal output by said respective voltage controlled
oscillator to said second local oscillator output.

10 5. A phase-locked loop structure according to claim 1,
further comprising a control unit, which control unit
switches off at least one of said first voltage
controlled oscillator and said second voltage
controlled oscillator while said second voltage
controlled oscillator or said second voltage
controlled oscillator is not required for providing a
signal to one of said first local oscillator output
and said second local oscillator output and while the
frequencies of signals currently generated by said
first voltage controlled oscillator are closer to each
other than a predetermined difference.

15 6. A communication unit comprising a transmitter chain
requiring a local oscillator signal for processing
signals for transmission, a receiver chain requiring
a local oscillator signal for processing received
signals and a phase-locked loop structure providing
local oscillator signals, said phase-locked loop
structure comprising:

20 a first phase-locked loop including a first
voltage controlled oscillator;
25 a second phase-locked loop including a second
voltage controlled oscillator;

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a first local oscillator output for providing a first local oscillator signal, wherein a signal output by said first voltage controlled oscillator is forwarded to said first local oscillator output;

5 a second local oscillator output for providing a second local oscillator signal; and

10 a selection component for forwarding a signal output by said first voltage controlled oscillator or a signal output by said second voltage controlled oscillator to said second local oscillator output;

15 wherein one of said first local oscillator output and said second local oscillator output provides a local oscillator signal to said transmitter chain and wherein the respective other one of said first local oscillator output and said second local oscillator output provides a local oscillator signal to said receiver chain.

7. A method of providing a first local oscillator signal
20 and a second local oscillator signal, said method comprising:
25 in case said first local oscillator signal is required, using a signal provided by a first voltage controlled oscillator of a first phase locked loop as said first local oscillator signal; and

30 in case said second local oscillator signal is required, selecting a signal provided by one of said first voltage controlled oscillator and a second voltage controlled oscillator of a second phase locked loop for use as said second local oscillator signal.

8. A method according to claim 7, wherein said first voltage controlled oscillator generates signals in a

first frequency band, wherein said second voltage controlled oscillator generates signals in a second frequency band, wherein a signal output by said first voltage controlled oscillator is used as said second local oscillator signal whenever a second local oscillator signal having a frequency selected from said first frequency band is required and wherein a signal output by said second voltage controlled oscillator is used as said second local signal whenever a second local oscillator signal having a frequency selected from said second frequency band is required.

9. A method according to claim 7, wherein said first voltage controlled oscillator generates signals having a first quality and said second voltage controlled oscillator generates signals having a second quality, said first quality being higher than said second quality, wherein a signal output by said first voltage controlled oscillator is used as said second local oscillator signal whenever a second local oscillator signal having said first quality is required, and wherein a signal output by said second voltage controlled oscillator is used as said second local oscillator signal whenever a second local oscillator signal having said second quality is required.

10. A method according to claim 7, wherein a signal output by said first voltage controlled oscillator and a signal output by said second voltage controlled oscillator are used alternately as said second local oscillator signal, said method further comprising setting a required frequency of a signal output by a

respective one of said voltage controlled oscillators before a signal output by said voltage controlled oscillator is used as said second local oscillator signal.

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11. A method according to claim 7, further comprising switching off at least one of said first voltage controlled oscillator and said second voltage controlled oscillator while a signal generated by said first voltage controlled oscillator or a signal generated by said second voltage controlled oscillator, respectively, is not to be used as one of said first local oscillator signal and said second local oscillator signal, and while the frequencies of signals currently generated by said first voltage controlled oscillator and said second voltage controlled oscillator are closer to each other than a predetermined difference.

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